

**MANUFACTURING AND ECONOMIC DEVELOPMENT:
INTERSECTORAL RELATIONSHIPS IN EUROPE,
AMERICA, AFRICA AND ASIA-PACIFIC, 1999-2006**

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Abstract

This study presents a comparative analysis of the evolution of manufacturing real value-added per capita in the countries of Europe, Eurasia, America, Africa, Middle East, South Asia, East Asia and Pacific for the period 1999-2006, and its positive impact on the real value-added of services and economic development. We analyze the results of several econometric models that emphasize the important positive role of manufacturing in inter-sector relationships. The main conclusions show that OECD countries have experienced the highest increases in manufacturing real value-added per capita, as well as a few countries in East Asia and other areas. Unfortunately economic policies did not give enough priority to manufacturing activities in other countries, including many of Latin America, where to foster the real value-added of this sector is of uppermost importance to improve socio-economic development. In the poorest countries of Africa, and other areas, increase of manufacturing activities focused to development of domestic markets, should be included in the main strategies for international cooperation to development together with other socio-economic factors.

JEL codes: L6, O14, O5, O51, O52, O53, O54, O55, O56, O57

Keywords: Manufacturing, Services, Development, Europe, America, Africa, Asia, Pacific

1. Introduction

This study presents a general overview of manufacturing production in major aggregates of countries during the period 1999-2006 in comparison with other sectors, at constant prices, and in per capita terms. The main aim is to analyze if the improvement in

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economic policies addressed to foster economic development have had a positive evolution during that period.

We find that although some areas showed an annual percentage rate of increase in manufacturing above the World average, the absolute increase was usually small because the initial values of real value-added of manufacturing per capita where, in many cases, very low. We found that outside the OECD countries very few countries have experienced substantial increases in real value-added per capita in Manufacturing and that economic policies should be improved in this regard in many countries.

Section 2 presents a general overview for major aggregates of countries. Section 3 analyzes the evolution of Manufacturing and Services in countries of Europe, Eurasia and America. Section 4 refers to Africa Asia and Pacific, including Middle East and Northern Africa, Sub-Saharan Africa, South Asia, East Asia and Pacific. Finally section 5 presents the main conclusions.

The bibliography includes references to some interesting studies related with the evolution of manufacturing and inter-sectoral relationships in several areas of the World for the last decades. An Annex includes supplementary data and information.

2. World real value -added by sector: aggregate data, 1999-2006

Table 1 presents the shares of major geographical areas on Word real Value Added of the production sectors: Agriculture, Industry (including Building), Manufacturing and Services.

Table 2 shows the evolution of real value added of Manufacturing per capita (VMH) and Services (VSH) per capita, in dollars at constant prices and exchange rates of year 2000. The table includes the annual rate of growth of both variables and the total increase in dollars for the period 1999-2006. It shows that the highest increase corresponds to the *OCDE*, with 495 dollars in Manufacturing and 2433 dollars of increase per capita in the real value-added of

Services. The second place corresponds to “*other areas*” group that includes Russia and Central Asia, with an average increase of 238 dollars per capita in Manufacturing and 667 in Services. *East Asia and Pacific* gets an average increase of 217 dollars in Manufacturing and 258 in Services, while *Latin America* reaches an increase of only 60 Euros per capita in Manufacturing, and 338 in Services.

Table 1. Shares of World Value-Added by sector, 1999-2006

Area	Agriculture		Industry		Manufacturing		Services	
	1999	2006	1999	2006	1999	2006	1999	2006
OECD	36.75	33.17	73.21	67.2	75.97	70.23	81.86	78.94
E.Asia-Pacific	22.59	24.67	8.36	12.85	8.76	13.43	3.39	4.98
South Asia	12.06	12.20	1.62	2.21	1.48	1.96	1.40	1.92
Latino	9.87	10.25	6.29	6.21	5.87	5.62	5.83	5.96
MENA	4.58	5.20	1.91	1.98	0.88	1.05	0.94	1.06
Sub-Sahara	5.19	5.32	1.16	1.31	0.70	0.72	0.79	0.87
Other	8.96	9.19	7.45	8.23	6.34	6.99	5.79	6.27
World	100	100	100	100	100	100	100	100

Source: Own elaboration from WB(2008).

Table 2. Real Value-Added of Manufacturing and Services, per capita
(dollars at 2000 prices and exchange rates)

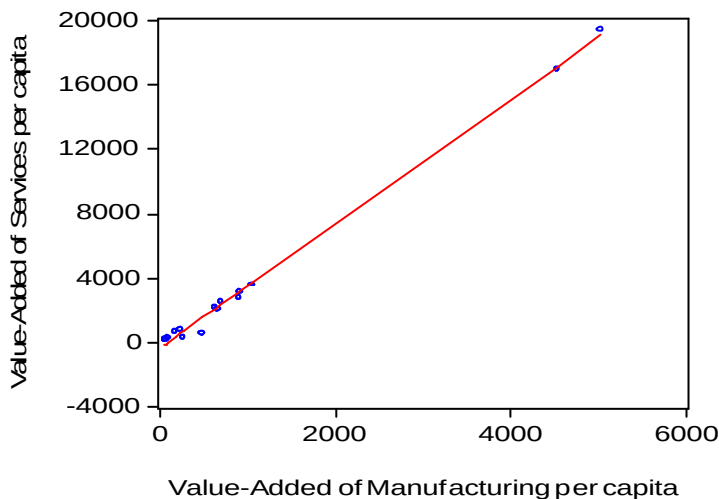
Area	Manufacturing				Services			
	1999	2006	Rate	Dif.	1999	2006	Rate	Dif.
OECD	4526	5021	1.48	495	16986	19419	1.91	2433
East Asia-P.	268	485	8.47	217	361	619	7.70	258
South Asia	61	90	5.56	29	200	302	5.89	102
Latino	634	694	1.29	60	2195	2533	2.05	338
MENA	178	234	3.91	56	659	816	3.05	157
Sub-Sahara	58	63	1.18	5	230	262	1.86	32
Other	660	898	4.40	238	2099	2766	3.94	667
World	912	1050	2.01	138	3176	3612	1.84	436

Note: Own elaboration from WB(2008). Rate is the annual rate of growth of each variable for the period 1999-2006 and *dif* is the increase given by the difference between the value of year 2006 and the value of year 1999.

Regarding the rates of annual growth, the highest percentages correspond to East Asia and Pacific and South Asia, both in Manufacturing and Services, and the lowest rates to Sub-Saharan area. Although comparisons in PPPs, instead of exchange rates, should increase the real values of the poorest areas, the comparison in exchange rates is also interesting to show the long way to get a higher degree of convergence of real value-added per capita of the poorest countries with the world average of year 2006.

Graph 1 shows the important role of manufacturing to foster development of services, for the aggregated data of table 2, while other graphs in sections 3 and 4 show the same relationship at country level.

Graph 1. Real Value-Added of Manufacturing and Services



Note: elaboration from table 2.

We notice that generally the highest the value added per capita in Manufacturing the highest the value added per capita in Services,

which is due to the important inter-sectoral relationships analyzed in Guisan, Aguayo and Exposito(2001), Guisan(2006) and (2007) and other studies. There is a correlation of 99.8% among the real value-added of Manufacturing and Services.

Table 3 shows the evolution of Population as well as the evolution of the share of each area on the World population, and the rate of annual growth of population and the total increase for the period 1999-2006. World population has increased at a rate of 1.23% people per year, almost twice the percentage of OECD countries, with Latin America and MENA countries growing slightly over world average and South Asia and Sub-Sahara with demographic growth rates clearly over world average.

Table 3. Population: number of people, share, rate and increase

Area	Population		Share		Rate	Increase
	1999	2006	1999	2006	99-06	99-06
OECD	918	960	15.31	14.68	0.64	42
East Asia-Pacific	1788	1899	29.81	29.05	0.86	111
South Asia	1335	1499	22.26	22.93	1.65	164
Latino	506	556	8.44	8.50	1.35	50
MENA	271	308	4.52	4.71	1.28	37
Sub-Sahara	655	781	10.92	11.95	2.51	126
Other	525	535	8.74	8.18	0.27	10
World	5998	6538	100	100	1.23	540

Table 4 shows the evolution of real Gross Domestic Product at Exchange Rates (ER) of year 2000 and in purchasing power parities of year 2005. While the former (ER) represents the capacity to buy goods and services in the United States and in other international markets, the latter (PPP) represents the capacity to buy goods and services in the domestic market, which may be much more affordable particularly in low income countries where many goods and services have a price below the levels in the richer countries.

We notice that real Gdp per inhabitant (Gdph) at PPP, has increased in all the areas for the period 1999-2006, although with wide differences among areas. While OECD countries have

increased almost 4000 dollars per capita, we notice that the poorest areas, Sub-Sahara and South Asia, have experienced lower increases, respectively, of 268 and 626 dollars per capita.

Table 4. Real Gdp, Population and Real GDP per inhabitant

Area	Gdph ER 2000		Gdph PPP 2005		Exponential Rate Annual percentage		
	1999	2006	1999	2006	GDP	Pop	Gdph
OECD	25966	29248	30013	34003	2.42	0.64	1.78
East Asia-P.	893	1484	2567	4251	8.07	0.86	7.21
South Asia	437	606	1606	2232	6.35	1.65	4.70
Latino	3834	4335	7623	8668	3.19	1.35	1.84
MENA	1542	1796	5348	6511	4.09	1.28	2.81
Sub-Sahara	504	577	1524	1792	4.82	2.51	2.31
Other	3762	5224	8438	12666	6.07	0.27	5.80
World	5116	5813	7536	9032	3.82	1.23	2.59

Notes: Elaborated from WB(2008). ER *at exchange rates*. PPP *at purchasing power parities*. Own elaboration of the annual rates of growth in the last three columns. Rates of GDP (real Gross Domestic Product) and Gdph (real GDP per inhabitant) were calculated from the PPP values. The rate of Gdph is the difference between the *exponential rate* of increase of Gdp and the *exponential rate* of increase of Population (Pop).

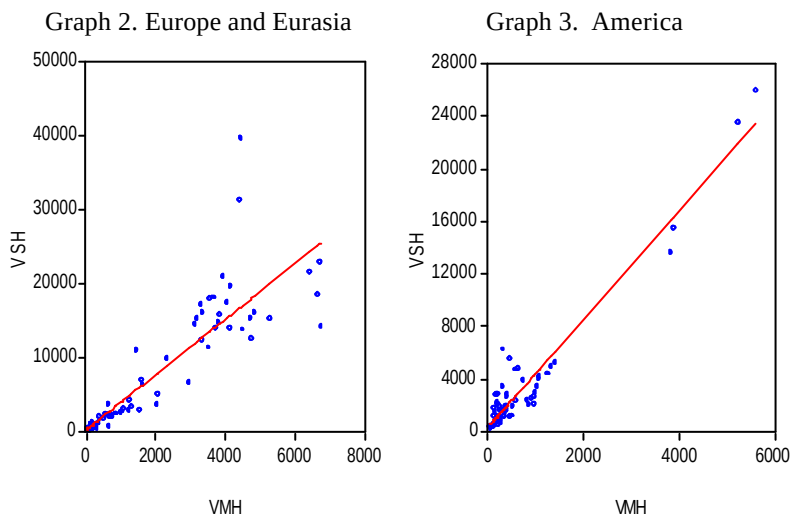
Population growth has been excessively high in Sub-Sahara while the other areas have moderated the rates of population growth, accordingly with the improvement of the educational level of their population. If Sub-Sahara would have had the world average rate of 1.23% of annual increase in population, the rate of growth of real Gdp per capita should have amounted to 3.59% per year, instead of 2.31, and the value of Gdph in year 2006 should have been 1959 instead of 1792.

There has been an important improvement in the group of Other countries, which includes Russia and Central Asia, while Latin America has experienced a much lower increase both of real GDP and real GDP per capita. The group of Other countries have reached

the second position of manufacturing real value-added per capita in year 2006, with higher increase than Latin America for 1999-2006,

3. Manufacturing and Services in Europe, Eurasia and America

First of all we present graphs 2 and 3, which show the positive relationship between the real value-added per capita of Services (VSH) and Manufacturing VMH, for years 1999 and 2006, in 45 countries of Europe and Eurasia and in 31 countries of America. Secondly we analyze the evolution of those variables in countries of Europe, Eurasia and America. Both in the tables and graphs we may notice that generally there is a very strong relationship between VSH and VMH, as analyzed in the econometric studies by Guisan(2006) and (2007) and other studies, although in a few cases the development of Services is mainly explained by to special circumstances (international or national institutions headquarters, financial international centers, tourism, harbor activities, energy, another raw materials, or other ones) and not only for the level of manufacturing.



3.1. Manufacturing and Services in Europe and Eurasia.

Table 5 shows the evolution of real value-added per capita of Manufacturing and Services in European and Eurasian countries for the period 1996-2007, in US\$ at 2000 prices and exchange rates.

Classification of countries in Europe and Eurasia, by the level of VMH per capita in year 2006 are as follows:

Group 1. VMH higher than 3500 dollars: Austria, Belgium, Denmark, Finland, Germany, Luxembourg, Sweden, Switzerland and the United Kingdom.

Group 2. VMH between 2000 and 3500 dollars: Czech Republic, France, Italy, Netherlands, Slovenia and Spain.

Group 3. VMH close to 1000 or between 1000 and 2000 dollars: Croatia, Estonia, Greece, Hungary, Lithuania, Poland, Portugal, Slovak Republic and Turkey.

Group 4. VMH below 900 dollars: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Georgia, Kazakhstan, Kyrgyz Republic, Latvia, Macedonia FYR, Moldova, Tajikistan, Ukraine and Uzbekistan.

Table 5. Real Value-Added per capita of Manufacturing (VMH) and Services (VSH) in Europe and Eurasia, 1999-2006 (US\$2000 at exch.rates)

	VMH 99	VMH 06	VSH 99	VSH 06	Dif. VMH	Dif. VSH
Albania	123	120	513	823	-3	309
Armenia	126	206	208	486	80	278
Austria	4126	4709	14043	15398	583	1355
Azerbaijan	31	53	207	478	21	272
Belarus	316	661	480	763	345	283
Belgium	3715	3828	14007	15819	113	1812
Bosnia&Herzegovina	150	185	691	1119	36	428
Bulgaria	216	371	690	1105	155	415
Croatia	686	993	1926	2676	308	750
Czech R.	1223	2025	2855	3634	803	779
Denmark	4038	4130	17424	19658	93	2235
Estonia	558	1237	2307	4181	679	1873
Finland	4739	6736	12460	14202	1996	1742

France	3117	3326	14525	15997	209	1472
Georgia	76	132	306	586	55	280
Germany	4478	5274	13796	15247	796	1452
Greece	-	1431	8324	11017	-	2693
Hungary	846	1302	2395	3251	456	856
Iceland	-	-	16022	21868	-	5847
Ireland	-	-	11235	14920	-	3685
Italy	3505	3322	11358	12310	-184	952
Kazakhstan	177	331	537	1053	154	517
Kyrgyz R.	49	41	79	120	-8	40
Latvia	377	642	1967	3744	265	1777
Lithuania	503	1045	1693	2684	542	991
Luxembourg	4403	4432	31338	39741	29	8403
Macedonia FY	282	309	793	926	27	133
Moldova	38	65	137	243	27	106
Netherlands	3172	3297	15192	17097	125	1905
Norway	3540	3931	17954	20949	391	2995
Poland	683	1077	2394	3069	395	676
Portugal	1615	1587	6343	6954	-27	610
Romania	-	-	703	1054	-	351
Russian Fed.	-	-	816	1338	-	522
Slovak R.	851	1536	2405	2837	685	432
Slovenia	2060	2957	5091	6505	897	1414
Spain	2414	2314	8319	9750	-100	1431
Sweden	4830	6644	16030	18485	1814	2455
Switzerland	6413	6710	21532	22915	297	1383
Tajikistan	45	81	49	69	35	21
Turkey	757	994	1920	2544	237	624
Turkmenistan	57	-	164	-	-	-
Ukraine	91	199	239	399	108	160
UK	3799	3662	14636	18113	-137	3477
Uzbekistan	47	49	199	273	1	74

Notes: Dif. VMH and Dif. VSH are the difference between the values of years 2006 and 1999. Source: Own elaboration from WB(2008). Some data of year 2006 are provisional estimations, and VMH of Spain in 1999 is based on OECD statistics. See Annex for more information.

3.2. Manufacturing and Services in America.

Table 6 shows the evolution of real value-added per capita of Manufacturing (VMH) and Services (VSH) in 31 American countries and territories.

Table 6. Real Value-Added per capita of Manufacturing (VMH) and Services (VSH) in America, 1999-2006 (US\$ 2000 at exchange rates)

	VMH 1999	VMH 2006	VSH 1999	VSH 2006	Dif. VMH	Dif. VSH
Argentina	1335	1428	4915	5237	93	322
Barbados	474	334	5537	6266	-139	729
Belize	263	413	1679	2010	149	331
Bolivia	134	149	481	498	15	16
Brazil	530	594	1965	2355	64	390
Canada	3830	3894	13607	15503	64	1895
Chile	836	1005	2395	2979	169	583
Colombia	289	359	980	1162	70	181
Costa Rica	986	982	2118	2620	-5	501
Dominica	261	249	1861	-	-12	-
Dominican R	353	386	1154	1600	33	446
Ecuador	192	226	685	878	34	193
El Salvador	478	519	1132	1230	41	98
Grenada	222	209	2129	2185	-13	56
Guatemala	227	197	965	1178	-30	213
Guyana	76	66	306	359	-10	52
Honduras	228	291	520	675	63	155
Jamaica	394	374	1746	1918	-19	172
Mexico	1038	1071	3451	4046	33	595
Nicaragua	113	145	345	392	32	47
Panama	409	326	2649	3432	-84	782
Paraguay	213	196	833	817	-17	-16
Peru	287	381	1154	1411	94	257
St. Kitts&Nevis	595	646	4738	4750	51	12
St. Lucia	182	217	2818	2892	35	73
St. Vincent&G.	165	150	1530	1833	-15	303
Suriname	150	301	1194	1622	151	428
Trinidad & Tobago	419	751	2840	3946	331	1106
USA	5244	5613	23508	25938	369	2430

Uruguay	1084	1265	4193	4435	181	243
Venezuela	868	928	2045	2521	60	476

Notes: Dif. VMH and Dif. VSH are the difference between the values of years 2006 and 1999. Source: Own elaboration from WB(2008)

Classification of countries, accordingly to the value of VMH in year 2006 is as follows:

Group 1. VMH higher than 3500 dollars: Canada and USA

Group 2. VMH between 2000 and 3500 dollars: None

Group 3. VMH between 900 and 2000 dollars: Argentina, Chile, Costa Rica, Mexico, Uruguay and Venezuela.

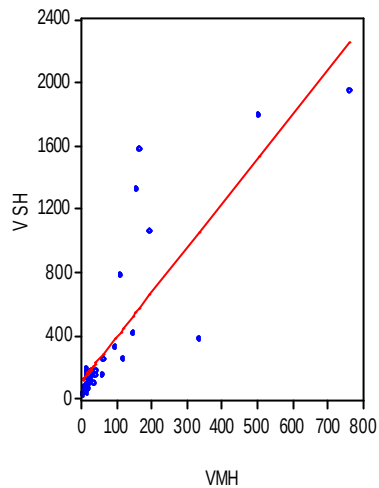
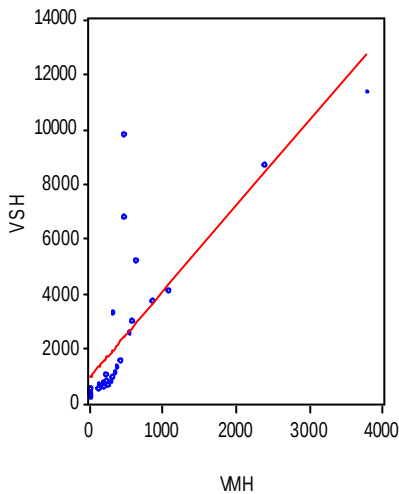
Group 4: VMH below 900 dollars: Barbados, Belize, Bolivia, Brazil, Colombia, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, St. Kits and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago.

4. Manufacturing and Services in Africa, Asia and Pacific

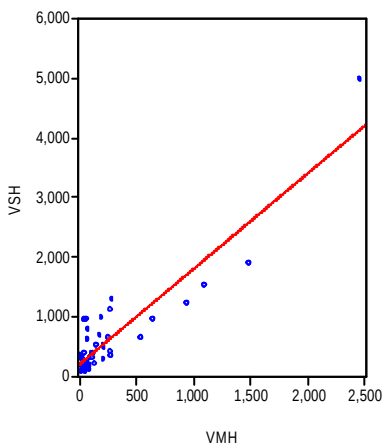
Graphs 4 to 6 show the relationship between VMH and VSH in Africa and Asia.

Graph 4. Middle East and N.Africa

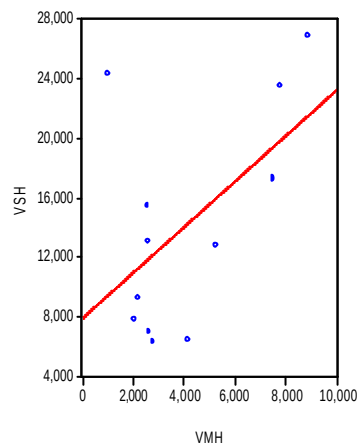
Graph 5. Sub-Saharan Africa



Graph 6. Asia with VSH<5000



Graph 7. Asia with VSH>5000



We may notice that the general rule is a very strong relationship between VSH and VMH although if a few exceptions, such as in the cases Hong-Kong China, which shows a very high value of VSH in spite of a relatively low level of VMH due to a high development of

trade, as in this territory many goods produced in their neighborhood regions are traded.

4.1. Middle East, Northern Africa and Sub-Saharan Africa

In case of Middle East and Northern Africa countries, only the United Arab Emirates (UAE) show high real valued of Manufacturing per capita, but there are more countries with a high level of income per capita, due to their revenue directly or indirectly related with oil exports. The most outstanding countries by the high values of VSH in year 2006 are UAE and Kuwait, followed by Oman, Saudi Arabia and Lebanon.

In the case of Sub-Saharan Africa, the highest levels of value-added of Manufacturing, in the countries of table 8 for year 2006, correspond to Seychelles, Mauritius and South Africa. These countries have also the highest levels of value-added in Services.

Table 7. MENA countries: Middle East and Northern Africa

	VMH 1999	VMH 2006	VSH 1999	VSH 2006	Dif VMH	Dif VSH
Algeria	127	135	553	686	8	133
Djibouti	17	18	546	567	1	21
Egypt	255	303	664	819	48	155
Iran	190	319	771	962	129	192
Jordan	228	377	1066	1310	150	244
Kuwait	474	470	6790	9811	-4	3021
Lebanon	550	582	2606	3013	32	408
Morocco	199	233	624	797	35	173
Oman	325	637	3321	5215	312	1894
Saudi Arabia	861	1080	3716	4131	219	415
Syrian AR	8	156	421	575	148	154
Tunisia	352	428	1149	1587	76	438
UAE	2392	3787	8702	11367	1394	2665
Yemen R.	20	24	234	289	4	55

Source: Own elaboration from WB(2008) and provisional estimations.

Table 8. Sub-Saharan Africa

	VMH 1999	VMH 2006	VSH 1999	VSH 2006	Dif. VMH	Dif. VSH
Angola	20	44	164	193	25	29
Benin	30	28	176	150	-2	-26
Botswana	156	156	1325	1697	0	372
Burkina Faso	36	36	95	111	0	16
Cameroon	118	140	256	325	21	68
Cape Verde	111	150	778	965	39	187
Central African R.	16	15	86	57	-1	-28
Comoros	15	16	163	164	1	1
Congo, DR	5	4	27	29	0	3
Cote d'Ivoire	146	98	411	280	-48	-130
Eritrea	19	19	91	93	-1	2
Ethiopia	6	8	42	59	1	17
Gabon	165	183	1575	1679	17	104
Gambia, The	15	16	138	156	1	18
Guinea	15	15	188	168	0	-20
Guinea-Bissau	15	16	41	39	1	-2
Kenya	42	45	178	191	2	13
Lesotho	60	83	151	199	23	47
Madagascar	27	25	126	123	-2	-3
Malawi	19	15	63	61	-4	-2
Mali	8	9	75	102	1	27
Mauritania	40	24	149	221	-16	72
Mauritius	762	760	1948	2737	-2	789
Mozambique	23	45	115	157	22	42
Namibia	194	195	1057	1237	1	180
Niger	11	12	73	74	0	1
Rwanda	15	19	74	104	5	30
Senegal	63	55	247	268	-9	22
Seychelles	1089	1075	5174	4832	-14	-342
South Africa	504	583	1790	2190	79	400
Sudan	25	42	134	174	17	40
Swaziland	334	332	379	544	-3	165
Tanzania	18	25	94	120	7	26
Togo	19	27	138	96	7	-42
Uganda	24	24	100	121	0	21
Zambia	32	38	146	180	6	34
Zimbabwe	95	37	324	141	-58	-183

4.3. South Asia, East Asia and Pacific

Classification of countries, accordingly to the value of VMH in year 2006 is as follows:

Group 1. VMH higher than 300 dollars: Japan, Korea Republic (South Korea) and Singapore

Group 2. VMH between 2000 and 3500 dollars: Australia, Brunei, and New Zealand.

Group 3. VMH between 900 and 2000 dollars: Hong-Kong China, Malaysia and Thailand

Group 4: VMH below 900 dollars: Bangladesh, Bhutan, Cambodia, China, Fiji, India, Indonesia, Kiribati, Lao, Mongolia, Nepal, Pakistan, Papua-New Guinea, Philippines, Samoa, Salomon Islands, Sri-Lanka, Tonga, Vanuatu and Vietnam.

Table 9. South Asia, East Asia and Pacific

	VM 1999	VM 2006	VS 1999	VS 2006	Dif. VMH	Dif. VSH
Australia	2571	2552	13102	15431	-19	2330
Bangladesh	48	68	155	201	20	46
Bhutan	74	109	267	385	36	118
Brunei D.	2743	2599	6340	7012	-144	672
Cambodia	36	92	114	192	57	78
China	277	543	342	653	265	311
Fiji	274	285	1126	1297	11	171
Hong Kong, cn	-	986	-	24283	-	-
India	61	92	201	320	31	119
Indonesia	212	274	297	414	61	118
Japan	7760	8842	23492	26851	1082	3359
Kiribati	4	4	368	358	0	-10
Korea, Rep.	2452	4134	4996	6435	1682	1438
Lao PDR	53	91	79	108	38	30
Malaysia	1094	1486	1535	1911	392	376
Mongolia	20	30	179	289	10	111
Nepal	19	18	75	84	-1	8

New Zealand	2027	2170	7904	9265	143	1362
Pakistan	74	112	249	314	38	65
Papua New G.	54	48	164	145	-7	-19
Philippines	214	253	506	653	39	147
Samoa	179	195	706	985	17	279
Singapore	5234	7463	12831	17311	2229	4479
Solomon I.	42	22	405	338	-20	-67
Sri Lanka	118	148	379	539	30	160
Thailand	647	943	965	1233	297	269
Tonga	72	76	625	795	5	170
Vanuatu	59	44	972	948	-16	-24
Vietnam	67	134	148	218	67	70

5. Conclusions

International comparisons of real value-added per capita in Manufacturing show that OECD countries have generally maintained or increased their relatively high levels of production in this sector for the period 1999-2006 and that a few countries of East Asia and other areas have got a outstanding increase in this variable. Unfortunately in many developing countries there has been little improvement in this important sector which has highly positive effects on the production of services and other sectors, as seen in the graphs and tables here presented. The direct and indirect effects of manufacturing in Europe, America, Africa and Asia has been shown at macroeconomic level and regional level in several econometric models cited in the bibliography.

Only a few countries or regions may get a high level of socio-economic development in absence of enough development of manufacturing, when some particular circumstances allow it: energy produces, tourist zones, and other reasons mentioned in this study. Thus, attempts to improve development of services without the proper consideration of the evolution of Manufacturing will be useless in many countries.

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Annexes. (Provisional version 30th October 2008. To be updated).

Annex 1. Manufacturing in OECD Countries: Sectors Q, K, C.

A comparison of real values of Consumption, Production, Exports and Imports of Manufacturing sectors in OECD countries, based on STAN statistics of OECD(1997). This is a summary of the main results presented by Guisan(2002). Data are in dollars at constant prices of 1990.

Table A1. Evolution of VMH at Exchange Rates (ER) and PPP
(thousand dollars per inhabitant at 1990 prices)

País	VMH at Exchange rates			VMH at PPP		
	1976	1985	1995	1976	1985	1995
Alemania	6.01	6.70	5.39	4.64	5.18	4.16
España	2.40	2.40	3.10	2.22	2.23	2.88
Japón	3.87	5.47	6.78	2.87	4.07	5.04
USA	3.25	3.87	4.37	3.25	3.87	4.37

Source Guisan(2002). Industry in Spain and OECD countries, *Regional and Sectoral Economic Studies*, Vol. 2-2, on line. Annex in English includes data for 19 OECD countries. Notes: PPP are Purchasing Power Parities.

Tables 2 to 6 show real values per capita in year 1995 of sector Q (Intermediate Goods, including Mining and Chemical industries), K (Capital Goods, including machinery and transport equipment) and C (Consumption Goods, including Food, Textil, Paper, Furniture, Plastics and Other industries). Data are expressed in thousand dollars at 1990 prices and purchasing power parities (PPP). For each manufacturing sector, and the total of the three sectors, the tables include the following variables:

- PH = production (not real value-added)
- CH = consumption
- XH = exports
- MH = imports
- BH = Balance of Foreign Trade (XH-MH)

Table A2. Consumption of sectors C,Q,K and Total

Country	CHC	CHQ	CHK	CHT
Germany	3057	3710	5152	11918
Spain	2444	2128	2021	6593
Japan	3803	3017	4877	11697
USA	4110	3067	5095	12272

Note: US\$ per capita at 1990 prices and PPP.

Source: Guisan(2002), RSES Vol.2-2.

Table A3. Production of sectors C, Q, K and Total

Country	PHC	PHQ	PHK	PHT
Germany	2781	3935	6008	12725
Spain	2359	2052	1907	6318
Japan	3546	3076	5835	12457
USA	3896	2988	4841	11726

Note: US\$ per capita at 1990 prices and PPP.

Source: Guisan(2002), RSES Vol.2-2.

Table A4. Foreign trade of manufacturing sectors: C, Q, K

	Germany	Spain	Japan	USA
XHC	599	351	65	246
XHQ	978	400	245	276
XHK	2305	793	1218	899
XH Total	3883	1544	1528	1421
MHC	875	436	322	460
MHQ	753	476	186	354
MHK	1449	907	260	1153
MH Total	3077	1818	768	1966
BHC	-276	-85	-257	-214
BHQ	225	-76	59	-78
BHK	857	-114	958	-253
BH Total	806	-275	760	-546

Note: US\$ per capita at 1990 prices and PPP in year 1995. XH=Exports, MH= Imports, BH=Balance=XH-MH. Source:Guisan(2002),RSES Vol.2-2.

Annex 2. Manufacturing, Services and Population

Table A5. Data of Europe and Eurasia, 1999-2006: VM, VS and Pop.
 (real value-added of Manufacturing and Services, million US\$ at 2000
 prices and exchange rates; Population in thousand people)

	VM 1999	VM 2006	VS 1999	VS 2006	Pop 1999	Pop 2006
Albania	380	381	1581	2609	3081	3172
Andorra	..	..	..	..	..	67
Armenia	392	620	646	1464	3100	3010
Austria	33019	39002	112370	127524	8002	8282
Azerbaijan	250	448	1650	4058	7983	8484
Belarus	3173	6431	4821	7430	10035	9732
Belgium	37989	40378	143236	166859	10226	10548
Bosnia and Herzegovina	541	699	2499	4226	3618	3777
Bulgaria	1776	2855	5664	8498	8208	7693
Channel I.	..	..	..	..	146	149
Croatia	3120	4412	8765	11885	4550	4441
Cyprus	..	..	..	..	687	773
Czech R.	12575	20799	29361	37318	10283	10269
Denmark	21477	22453	92677	106863	5319	5436
Estonia	768	1663	3175	5619	1376	1344
Faeroe Islands	..	..	..	..	..	48
Finland	24479	35470	64357	74787	5165	5266
France	182723	204054	851498	981492	58623	61353
Georgia	363	583	1461	2599	4774	4433
Germany	367551	434431	1132447	1256017	82087	82376
Greece	..	15958	90586	122814	10883	11148
Greenland	..	..	..	..	56	57
Hungary	8663	13113	24525	32742	10238	10071
Iceland	..	..	4454	6648	278	304
Ireland	..	..	42188	63573	3755	4261
Isle of Man	..	..	..	..	72	77
Italy	199539	195779	646531	725592	56922	58942
Kazakhstan	2646	5066	8011	16123	14928	15308
Kyrgyz R.	238	211	386	621	4865	5192

Latvia	901	1469	4700	8566	2390	2288
Liechtenstein	..	..	..	..	..	35
Lithuania	1776	3546	5978	9109	3531	3394
Luxembourg	1902	2074	13538	18599	432	468
Macedonia, FY	564	629	1588	1886	2002	2036
Moldova	158	248	577	931	4201	3833
Monaco	..	..	..	..	..	33
Montenegro	..	..	..	..	669	601
Netherlands	50141	53898	240112	279463	15805	16346
Norway	15789	18322	80073	97642	4460	4661
Poland	26386	41078	92529	117019	38658	38129
Portugal	16426	16800	64538	73598	10174	10584
Romania	..	..	15780	22750	22458	21588
Russian Fed.	..	..	119411	190681	146309	142500
San Marino	..	..	..	..	..	29
Serbia	..	..	..	..	7540	7412
Slovak R.	4591	8279	12974	15291	5395	5390
Slovenia	4091	5934	10111	13055	1986	2007
Spain	..	102089	332143	430123	39926	44116
Sweden	42777	60333	141979	167861	8857	9081
Switzerland	45788	50218	153738	171493	7140	7484
Tajikistan	275	535	296	459	6097	6640
Turkey	50163	72516	127273	185649	66293	72975
Turkmenistan	254	..	730	..	4445	4899
Ukraine	4521	9317	11887	18661	49673	46788
UK	222958	221911	858841	1097562	58682	60596
Uzbekistan	1152	1286	4857	7219	24400	26486

Source: WB(2008) and provisional estimations in a few cases of unavailable data.

Table A6. Data of America, 1999-2006: VM, VS and Pop.
(real value-added of Manufacturing and Services, million US\$ at 2000 prices and exchange rates; Population in thousand people)

	VM99 million	VM06 million	VS99 million	VS06 million	Pop 1999	Pop 2006
Argentina	48741	55874	179431	204951	36504	39134
Barbados	135	98	1578	1836	285	293
Belize	64	123	408	599	243	298

Bolivia	1092	1392	3922	4654	8147	9354
Brazil	90956	112517	337246	445841	17162 2	18932 3
Canada	116801	127123	415014	506156	30499	32649
Chile	12726	16519	36466	48947	15223	16433
Colombia	11832	16357	40199	52918	41004	45558
Costa Rica	3788	4319	8135	11524	3840	4399
Dominica	18772	17916	134	..	72	72
Dominican R	3037	3716	9924	15382	8598	9615
Ecuador	2330	2989	8318	11596	12139	13202
El Salvador	2910	3507	6892	8315	6088	6762
Grenada	22.4	22.6	215	236	101	108
Guatemala	2494	2571	10581	15347	10966	13029
Guyana	56	49	225	265	735	739
Haiti			..	..	8427	9446
Honduras	1383	2029	3157	4706	6072	6969
Jamaica	1013	998	4494	5116	2574	2667
Mexico	100279	111635	333287	421669	96584	10422 1
Nicaragua	569	803	1736	2170	5028	5532
Panama	1184	1071	7665	11284	2893	3288
Paraguay	1118	1182	4364	4917	5237	6016
Peru	7267	10505	29228	38932	25322	27589
St. Kitts and Nevis	25	31	199	228	42	48
St. Lucia	28	36	434	480	154	166
St. Vincent &G.	19	18	176	220	115	120
Suriname	65	137	516	738	432	455
Trinidad &Tobago	543	997	3678	5240	1295	1328
USA	146330 0	168040 0	6559800	776580 0	27904 0	29939 8
Uruguay	3564	4191	13790	14699	3289	3314
Venezuela	20712	25081	48813	68118	23867	27021

Source: World Bank(2008) and provisional estimations in a few cases of unavailable data.

Table A7 Mena countries. Million US\$2000 at exchange rates

	VM 1999	VM 2006	VS 1999	VS 2006	Pop 1999	Pop 2006
Algeria	3820.58 3	4500.72 3	16639.6 63	22884.2 74	30072	3335 1
Djibouti	12.376	15.022	387.108	464.746	709	819
Egypt	16661.2 25	22455.6 01	43395.7 40	60772.5 40	65316	7416 6
Iran	11934.6 18	22338.8 41	48464.5 15	67451.2 73	628 95	7009 8
Iraq	247.294		2213.44 8		24392	2682 8
Jordan	1066.44 0	2090.46 0	4990.28 8	7254.05 4	4680	5538
Kuwait	998.366	1222.07 4	14306.2 70	25499.2 54	2107	2599
Lebanon	2049.40 0	2358.65 2	9708.14 4	12219.4 39	3726	4055
Morocco	5583.05 6	7117.26 6	17513.1 20	24300.4 03	28084	3049 7
Oman	769.269	1621.87 8	7867.37 9	13277.0 6	2369	2546
Saudi Arabia	17381.9 78	25569.7 76	75055.0 79	97814.7 41	20198	2367 9
Syrian AR	128.639	3021.41 5	6772.45 1	11159.9 33	16099	1940 8
Tunisia	3328.28 4	4339.33 1	10860.3 17	16072.4 64	9456	1012 8
UAE	7256.30 2	16086.5 84	26392.0 54	48287.5 2	3033	4248
Yemen R.	353.462	532.065	4133.59 4	6279.35 2	17655	2173 2

Table A8. Sub-Saharan Africa

	VM 1999	VM 2006	VS 2006	VS 2006	Pop 1999	Pop 2006
Angola	242.285	733.490	2034.84 3	3192.373	1240 0	1655 7
Benin	181.256	243.993	1072.63 6	1315.235	6100	8760
Botswana	249.546	290.614	2120.78 8	3153.030	1600	1858
Burkina Faso	397.844	518.150	1047.23 3	1599.386	1100 0	1435 8
Cameroon	1739.63 3	2538.59 6	3766.92 3	5900.990	1470 0	1817 5
Cape Verde	48.783	77.69	342.466	500.913	440	519
Central African Republic	56.368	65.118	299.753	244.643	3500	4265
Comoros	8.176	9.813	86.302	100.812	529	614
Congo, Dem. Rep.	230.176	259.698	1328.44 7	1770.353	4980 0	6064 4
Cote d'Ivoire	2151.74 0	1857.23 3	6039.95 3	5304.719	1470 0	1891 4
Equatorial Guinea	..	323.080	..	129.081	420	496
Eritrea	77.332	87.435	364.067	434.578	4000	4692
Ethiopia	392.380	592.758	2623.74 4	4525.079	6280 0	7715 4
Gabon	191.192	239.292	1824.09 8	2201.176	1158	1311
Gambia, The	19.741	25.967	185.028	259.919	1338	1663
Guinea	108.859	137.400	1355.81 6	1543.945	7200	9181
Guinea-	20.432	27.012	54.200	63.468	1332	1646

Bissau						
Kenya	1279.50 4	1626.99 8	5430.56 3	6997.513	3045 5	3655 3
Lesotho	125.529	164.720	317.319	396.115	2100	1995
Madagascar	405.340	470.626	1895.90 8	2351.326	1510 0	1915 9
Malawi	208.844	204.666	685.400	832.040	1080 0	1357 1
Mali	87.873	105.628	818.750	1220.302	1090 0	1196 8
Mauritania	104.660	73.034	387.281	672.141	2600	3044
Mauritius	894.983	952.231	2288.91 0	3430.010	1175	1253
Mozambique	392.830	946.280	1995.82 5	3294.067	1730 0	2097 1
Namibia	329.674	399.744	1796.98 7	2532.190	1700	2047
Niger	118.402	158.772	768.105	1021.381	1050 0	1373 7
Rwanda	120.962	182.259	614.600	985.523	8300	9464
Senegal	587.054	658.931	2293.61 3	3239.160	9300	1207 2
Seychelles	87.107	91.397	413.942	410.747	80	85
South Africa	21208.0 07	27613.1 90	75378.8 27	103788.1 34	4210 0	4739 1
Sudan	806.744	1584.24 7	4373.56 6	6572.481	3260 2	3770 7
Swaziland	340.826	377.392	386.840	619.366	1020	1138
Tanzania	595.714	973.880	3100.35 0	4735.756	3290	3945 9

					0	
Togo	88.013	170.048	633.447	613.585	4600	6410
Uganda	507.658	717.447	2146.51 4	3623.825	2150 0	2989 9
Zambia	318.085	444.591	1449.34 0	2104.476	9900	1169 6
Zimbabwe	1133.46 7	492.265	3855.82 6	1863.165	1190 0	1322 8

Table A9. South Asia, East Asia and Pacific

	VM 1999	VM 2006	VS 1999	VS 2006	Pop 1999	Pop 2006
Australia	48664.9 86	52832.7 48	247962. 190	319446. 122	18926	20701
Bangladesh	6606	10669	21197	31347	13675 7	15599 1
Bhutan	40	71	145	250	543	649
Brunei Darussalam	894.130	992.710	2066.86 2	2678.72 2	326	382
Cambodia	449.042	1312.64 0	1433.22 0	2731.58 7	12526	14197
China	347528. 430	711678. 25	428821. 283	856111. 645	12537 35	13117 98
Fiji	217.859	237.412	896.053	1080.40 3	796	833
Hong Kong, China	..	6760.28 0	..	166509. 363	6606	6857
India	61027	101845	201242	355424	99901 6	11098 11
Indonesia	43200.3 48	61044.1 67	60364.5 71	92412.5 51	20356 8	22304 2
Japan	982819. 209	112959 9.1	2975263 .883	343033 9.2	12665 0	12775 6
Kiribati	0.341	0.390	32.340	35.754	88	100
Korea, Rep.	114316. 689	200158. 806	232921. 399	311552. 967	46617	48418
Lao PDR	272.713	525.670	402.922	623.482	5127	5759

Malaysia	24889.4 85	38801.3 88	34932.1 95	49907.6 01	22752	26114
Mongolia	47.575	77.430	424.504	748.132	2378	2585
Nepal	453	510	1797	2312	23873	27641
New Zealand	7772.88 9	9080.45 6	30310.9 80	38775.2 38	3835	4185
Pakistan	9946	17848	33522	49946	13479 0	15900 2
Papua New Guinea	283.672	294.722	858.993	901.146	5243	6202
Philippines	15981.0 95	21826.0 42	37782.7 90	56320.6 80	74633	86264
Samoa	31.447	36.127	124.313	182.280	176	185
Singapore	20722.5 82	32846.1 39	50798.1 62	76183.6 09	3959	4401
Solomon Islands	17.166	10.689	163.502	163.559	404	484
Sri Lanka	2251	2946	7215	10725	19043	19886
Thailand	38866.7 19	59856.2 94	57979.1 34	78251.4 26	60091	63444
Tonga	7.044	7.638	61.236	79.458	98	100
Vanuatu	11.023	9.636	180.728	209.401	186	221
Vietnam	5180.93 9	11281.7 60	11465.0 46	18308.1 82	77515	84108